

**CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM**  
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A041 Spotted Frog *Rana pretiosa*  
Family: Ranidae Order: Anura Class: Amphibia

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#### DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Never plentiful, the spotted frog is found in the northeastern portion of the state at elevations ranging from about 1000 m (3280 ft) in Shasta County to about 1450 m (4760 ft) in Modoc County (Jennings and Hayes 1994). This species is found in low, swampy areas in mountainous woodlands and wet meadows. A highly aquatic species, it's never found far from various aquatic habitats, springs, small cold streams and lakes (Wright and Wright 1949, Dumas 1966, Stebbins 1985). It is usually buried in the mud during the cold winter months but can be found above ground during sunny days throughout the winter (Turner 1960).

#### SPECIFIC HABITAT REQUIREMENTS

**Feeding:** Adults are able to feed under water, as well as on land, on insects, millipedes, centipedes, crayfish, sow bugs, snails and slugs, and small fish (Moore and Strickland 1955, Turner and Dumas 1972). Feeding near water occurs primarily at dusk, whereas, feeding away from land is usually during the day. Feeding activity reaches a peak in July and August (Turner and Dumas 1972).

**Cover:** Buries itself under the mud on lake bottoms to avoid freezing temperatures.

**Reproduction:** Breeding occurs in the shallow water along the margins of mountain lakes and ponds. Eggs are never laid in deep water. Females often select open areas of edges of ponds or lakes in which the water is heated by solar radiation to temperatures above 13° C (54° F) (Morris and Tanner 1969). Stagnant water is sometimes used as breeding sites (Turner 1960).

**Water:** Standing water is needed for breeding (see habitat requirements above).

**Pattern:** Prefers wet areas in mountainous woodlands and wet meadows, never far from aquatic habitats.

#### SPECIES LIFE HISTORY

**Activity Patterns:** Individuals may be nocturnal or diurnal. In Utah, individuals emerge from their winter hibernacula on the bottom of ponds and lakes in March when the air temperature reaches 13° C (55.5° F) (Turner 1960, Morris and Tanner 1969).

**Seasonal Movements/Migration:** In the eastern part of its range, individuals of this species move to upland areas in early May, and return to permanent aquatic habitats in July (Turner 1960).

Home Range: During the summer, adults of this species tend to remain in the same place for 2 or 3 months (Carpenter 1954, Turner 1960). Turner (1960) estimated the home range of adults to be 232-272 m<sup>2</sup> (2500-3000 ft<sup>2</sup>).

Territory: No data.

Reproduction: Outside of California, the breeding season occurs from March to July. Females lay an average of 740 eggs per season (147-1160) (Morris and Tanner 1969). Stebbins (1954) gave a larger clutch size for this species (1100-2400). Eggs are laid in clumps in shallow water, and hatch in 1-3 weeks depending on the water temperature (Turner 1958, 1960). Larvae begin to metamorphose by mid-June. Females may only breed once every 2-3 years. Adults reach sexual maturity in 4-5 years (Turner 1960).

Niche: Tadpoles of the spotted frog are subject to predation by several groups of animals, including trout salamanders, garter snakes, leeches, and diving beetles. Fungal attack is also known to kill tadpoles (Licht 1974). Predators on adults include garter snakes, minks, coyotes, and marsh hawks (Turner 1960). Nematode parasites are known to infest the gastro-intestinal tract of this species.

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